
EXHIBIT A

Write in Dark Ink on Front Side Only, Please

INVENTION DISCLOSURE			PAGE ONE OF <u>4</u>		
	PDNO <u>10011682</u>	DATE RCVD	ATTORNEY <u>EAA</u>		
<p>Instructions: The information contained in this document is COMPANY CONFIDENTIAL and may not be disclosed to others without prior authorization. Submit this disclosure to the HP Legal Department as soon as possible. No patent protection is possible until a patent application is authorized, prepared, and submitted to the Government.</p>					
<p>Descriptive Title of Invention: Ink Emissions Condenser and Collection System for an Ink Jet Printer</p>					
<p>Name of Project: FALCON</p>					
<p>Product Name or Number: Scanning/Page Wide Array</p>					
<p>Was a description of the invention published, or are you planning to publish? If so, the date(s) and publication(s):</p>					
<p>Was a product including the invention announced, offered for sale, sold, or is such activity proposed? If so, the date(s) and location(s):</p>					
<p>Was the invention disclosed to anyone outside of HP, or will such disclosure occur? If so, the date(s) and name(s):</p>					
<p><i>If any of the above situations will occur within 3 months, call your IP attorney or the Legal Department now at 1-898-4919 or 870-898-4919.</i></p>					
<p>Was the invention described in a lab book or other record? If so, please identify (lab book #, etc.)</p>					
<p>Was the invention built or tested? If so, the date:</p>					
<p>Condenser system was built and tested</p>					
<p>Was this invention made under a government contract? If so, the agency and contract number:</p>					
<p>Description of Invention: Please preserve all records of the invention and attach additional pages for the following. Each additional page should be signed and dated by the inventor(s) and witness(es).</p>					
<p>A. Description of the construction and operation of the invention (Include appropriate schematic, block, & timing diagrams; drawings; samples; graphs; flowcharts; computer listings; test results; etc.)</p>					
<p>B. Advantages of the invention over what has been done before.</p>					
<p>C. Problems solved by the invention.</p>					
<p>D. Prior solutions and their disadvantages (If available, attach copies of product literature, technical articles, patents, etc.).</p>					
<p>Signature of Inventor(s): Pursuant to my (our) employment agreement, I (we) submit this disclosure on this date: [].</p>					
490718	MICHAEL A. RIOL	<u>Michael</u>	312-6468	5400-5643	
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
464122	DAVID B. LARSON	<u>David Larson</u>	212-2176	5400-5643	
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
Employee No.	Name	Signature	Telnet	Mailstop	Entity & Lab Name
<p><i>(If more than four inventors, include additional information on another copy of this form and attach to this document)</i></p>					

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INVENTION DISCLOSURE		COMPANY CONFIDENTIAL	PAGE <u>1</u> OF <u>4</u>
Signature of Witness(es): (Please try to obtain the signature of the person(s) to whom invention was first disclosed.) The invention was first explained to, and understood by, me (us) on this date: <u>1</u>			
Full Name	Signature	Date of Signature	
<u>Wade Antoine Powell</u>	<u>Wade A. Powell</u>		
Full Name	Signature	Date of Signature	
<u>JOHN ANTONIO BERNACK</u>	<u>John Berny</u>		
Inventor & Home Address Information: (If more than four inventors, include add'l. information on a copy of this form & attach to this document)			
Inventor's Full Name			
Michel Rieu			
Street			
12348 SE Grove Ct.			
City	State	Zip	
Milwaukee	OR	97222	
Do you have a Residential P.O. Address? P.O. BOX	City	State	Zip
Greeted as (nickname, middle name, etc.)	Citizenship		
Mike	CANADA		
Inventor's Full Name			
DAVID BERT LARSON			
Street			
16310 NE 34 ^{1/4} ST	State	Zip	
WA	98682		
Do you have a Residential P.O. Address? P.O. BOX	City	State	Zip
Greeted as (nickname, middle name, etc.)	Citizenship		
DAVID	USA		
Inventor's Full Name			
Street			
City	State	Zip	
Do you have a Residential P.O. Address? P.O. BOX	City	State	Zip
Greeted as (nickname, middle name, etc.)	Citizenship		
Inventor's Full Name			
Street			
City	State	Zip	
Do you have a Residential P.O. Address? P.O. BOX	City	State	Zip
Greeted as (nickname, middle name, etc.)	Citizenship		

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Mike Riou

A: Description of Invention

New high throughput writing systems will require heaters to drive off moisture from the paper. This is required to achieve handleability and stacking goals for the output. Once the paper and ink is heated, the high humidity air must be collected, processed and exhausted to the atmosphere. The humid air is a mixture of water from the ink, paper, solvents from the ink, and ink aerosol. This invention collects the heated vapours, condenses the water and solvents, filters the aerosol, and pumps and stores the collected condensate.

(At some of the proposed throughputs, ink usage (for scanning) may reach 1.9 L/hr. Assuming 80% of the ink is driven off during heating, up to 1.5 L/hr may have to be processed.)

Note – Ink is approx 80% water, 15-18% solvent, and the remainder is dye, biocide, etc. When it is heated, the vapour is about the same composition, with the most of the dye staying in the paper. The vapour is ~80% water, 20% solvents.

(See attached diagram for a schematic of system.)

B: Advantages of Invention:

- 1) Previous designs did not have any condensation systems due to a lack of heaters and/or relatively low throughputs. The only system was a fan and filter to control aerosol.
- 2) The humid air is controlled – evacuated from the printzone and processed. This will minimize the amount of water condensing on critical surfaces and causing print quality problems.
- 3) Waste condensate can be stored and disposed of correctly.
- 4) Ink solvents can be prevented from entering the atmosphere around the printer in high quantities. Note that there are limits to the amount of some solvents in the air. Some solvents do not have limits yet. Also, some solvents may not be harmful, but have annoying odours that may be unacceptable.

C: Problems Solved by the Invention:

- 1) The humid air is controlled – evacuated from the printzone and processed. This will minimize the amount of water condensing on critical surfaces and causing print quality problems.
- 2) Waste condensate can be stored and disposed of correctly.

D: Prior Solutions and their Disadvantages:

The only solution I know of is an aerosol fan to remove air from the interior of the printer. We have never cooled or condensed vapour.

Witnesses:
Walt Powell
John ...

EMISSIONS CONDENSER AND STORAGE SYSTEM

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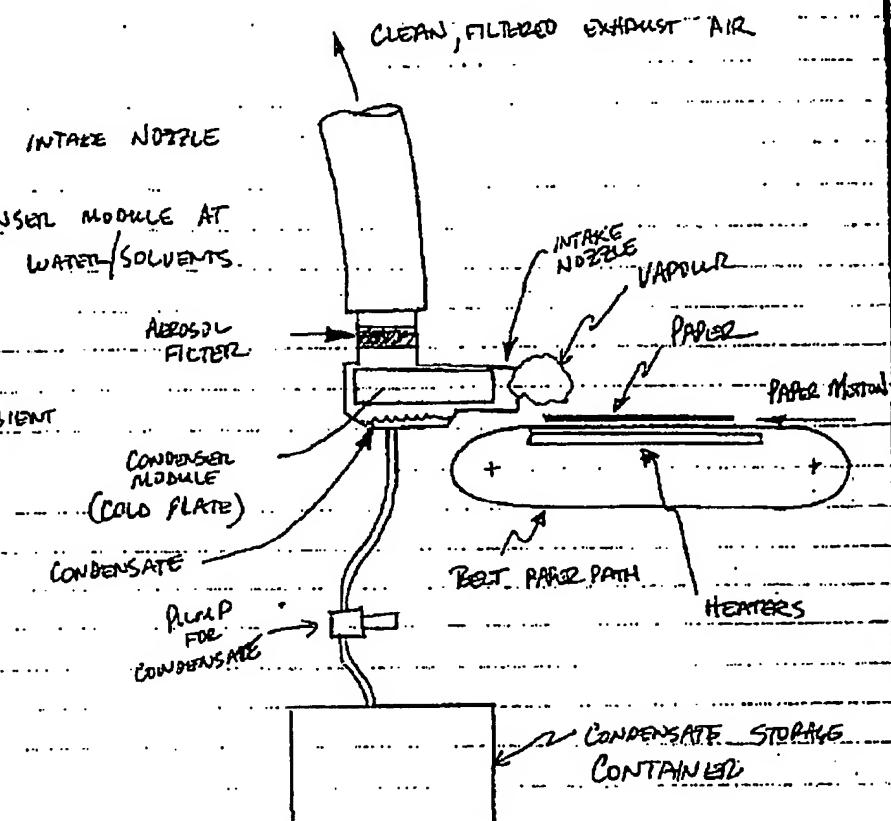
① AIR (VAPOUR) SUCKED INTO INTAKE NOZZLE

② VAPOUR RUNS ACROSS CONDENSER MODULE AT LOW TEMP TO CONDENSE WATER/SOLVENTS.

③ AIR IS FILTERED

④ AIR IS RELEASED TO AMBIENT OFFICE CONDITIONS

⑤ CONDENSATE IS PUMPED TO A RESERVOIR



(THIS RESERVOIR MAY BE FIXED OR REPLACEABLE DEPENDING UPON LIFE OF PRINTER.)

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Handwritten signatures

Witnesses:

Wade A. Powell
John Henry

To Page No. _____

Signed & Understood by me,

Date

Invented by

Signature

Date